IN THE CLAIMS

Please amend the claims as follows:

1 – 12 Cancelled.

13. (Currently Amended) A method of decoding an encoded multi-channel audio signal, the method comprising:

- obtaining a monaural signal from the encoded audio signal, the monaural signal comprising a combination of at least two audio channels ~~wherein the at least two input audio channels have been time/frequency sliced such that they can be analyzed as a function of time~~,
- obtaining a set of spatial parameters from the encoded audio signal, and
- generating a multi-channel output signal from the monaural signal and the spatial parameters, the set of spatial parameters including a parameter representing a measure of similarity of waveforms of the multi-channel output signal, wherein the measure of similarity ~~corresponds~~ **is selected from the group consisting of** ~~to~~ a value of a cross-correlation function at a maximum of said cross-correlation function of the multi-channel output signal **and a function of increasing with the dissimilarity of the multi-channel output signal**.

14. (Currently Amended) A decoder for decoding an encoded multi-channel audio signal, the decoder comprising

- means for obtaining a monaural signal from the encoded audio signal, the monaural signal comprising a combination of at least two audio channels ~~wherein the at least two input audio channels are time/frequency sliced such that they can be analyzed as a function of time~~, ~~and~~
- means for obtaining a set of spatial parameters from the encoded audio signal, and

- means for generating a multi-channel output signal from the monaural signal and the spatial parameters, the set of spatial parameters including a parameter representing a measure of similarity of waveforms of the multi-channel output signal, wherein the measure of similarity ~~corresponds~~ **is selected from the group consisting of** ~~to~~ a value of a cross-correlation function at a maximum of said cross-correlation function of the multi-channel output signal **and a function increasing with the dissimilarity of the multi-channel output signal**.

15. Cancelled.

16. Cancelled.

17. Cancelled.

18. (New) Decoding apparatus for decoding an encoded digital audio signal comprising at least a first and a second digital audio signal component, which have been encoded into a composite digital signal (X) and a parameter signal (P), the decoding apparatus comprising:

- an input unit (210) for receiving a transmission signal,
- a demultiplexer unit (210) for retrieving the composite digital signal and the parameter signal from the transmission signal,
- a decorrelator unit (401) for generating from the composite digital signal a decorrelated version of the composite digital signal,
- a matrixing unit (403) for receiving the composite digital signal and the decorrelated version of the composite digital signal and generating therefrom a replica of the first and second digital audio signal component,
- the replica of the first digital audio signal component being a linear combination of the composite digital signal and the decorrelated version of the composite digital signal, using multiplier coefficients that are dependent of the parameter signal,

- the replica of the second digital audio signal component being a linear combination of the composite digital signal and the decorrelated version of the composite digital signal, using multiplier coefficients that are dependent of the parameter signal.

19. (New) Decoding apparatus as claimed in claim 18, characterized in that the parameter signal comprises a first parameter signal component (r) which is a measure of the similarity of waveforms of the replicas of the at least first and second digital audio signals, said measure of similarity corresponding to a value of a cross correlation function between the replicas of said at least first and second digital audio signal components, said value being substantially equal to the maximum of said cross correlation function.

20. (New) Decoding apparatus as claimed in claim 19, characterized in that the parameter signal comprises a second parameter signal component (c) which is representative of the relative level difference between the replicas of the first and second digital audio signal components.

21. (New) Decoding apparatus as claimed in claim 20, characterized in that the matrixing unit equals

$$M = C\begin{pmatrix} \cos(\beta + \alpha/2) & \sin(\beta + \alpha/2) \\ \cos(\beta - \alpha/2) & \sin(\beta - \alpha/2) \end{pmatrix}$$

wherein β is an angle value related to the first parameter signal component and C is related to the second parameter signal component.

22. (New) Decoding apparatus as claimed in claim 21, characterized in that the following relationship exists between α and the first parameter signal component:

$$r = \cos(\alpha),$$

wherein r is the value of the maximum of the cross correlation function.

23. (New) Decoding apparatus as claimed in claim 21, characterized in that C is a 2x2 matrix and the following relationship exists between matrix coefficients of C and the second parameter signal component (c)

$$C = \begin{pmatrix} \frac{c}{1+c} & 0 \\ 0 & \frac{1}{1+c} \end{pmatrix}$$

where c equals the relative level difference between said signals.

24. (New) Decoding unit as claimed in claim 21, characterized in that the following relationship exists between α and β:

$$\tan(\beta) = \frac{1-c}{1+c} \cdot \tan(\alpha/2)$$

25. (New) Decoding apparatus as claimed in claim 18, characterized in that the decorrelator unit is adapted to delay the composite digital signal so as to obtain the decorrelated composite digital signal.

26. (New) Decoding apparatus as claimed in claim 25, characterized in that the delay is a frequency dependent delay.

27. (New) Decoding apparatus as claimed in claims 18-26, characterized in that the composite digital signal is a wideband signal split into a plurality of composite digital subsignals, one for each of a plurality of frequency bands, the parameter signal also being split into a plurality of parameter sub signals, one for each of the plurality of frequency bands,

- the decorrelator unit (401) being adapted to generate from the composite digital sub signals a decorrelated version of the composite digital sub signals,
- the matrixing unit (403) being adapted to receive the composite digital sub signals and the decorrelated version of the composite digital sub signals and generating therefrom a replica of a plurality of sub signals for each of the first and second digital audio signal components,
- a sub signal of the first digital audio signal component being a linear combination of a corresponding composite digital sub signal and the decorrelated version of the corresponding composite digital sub signal, using multiplier coefficients that are dependent of a corresponding one of said parameter sub signals,
- a sub signal of the second digital audio signal component being a linear combination of a corresponding composite digital sub signal and the decorrelated version of the corresponding composite digital sub signal, using multiplier coefficients that are dependent of a corresponding one of said parameter sub signals,
- the arrangement further comprising a transform unit (307) to transform the sub signals of the first and second digital audio signal components into said replicas of said first and second digital audio signal components.

28. (New) Decoding apparatus as claimed in claim 27, characterized in that the composite digital sub signals are split into consecutive time signals, one for each of consecutive time intervals in the time domain, the parameter sub signals also being split into parameter sub signals of each of the consecutive time intervals,

- the decorrelator unit (401) further being adapted to generate for each consecutive time interval and each composite digital sub signal from said composite digital sub signals a decorrelated version of said composite digital sub signal,
- the matrixing unit (403) further being adapted to generate for each consecutive time interval from each composite digital sub signal and its decorrelated version thereof in said interval, a replica of a sub signal for each of the first and second digital audio signal components,

- a sub signal of the first digital audio signal component in said time interval being a linear combination of a corresponding composite digital sub signal in said time interval and the decorrelated version of the corresponding composite digital sub signal in said time interval, using multiplier coefficients that are dependent of the parameter sub signal for said time interval,
- a sub signal of the second digital audio signal component in said time interval being a linear combination of a corresponding composite digital sub signal in said time interval and the decorrelated version of the corresponding composite digital sub signal in said time interval, using multiplier coefficients that are dependent of the parameter sub signal for said time interval.